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Nevada Supplement 3

RANGELAND AND PASTURELAND

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Applicant Name: _____

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1. **Forage and Animal Balance Worksheet (Tables A & B)** with example and instructions for producers to complete. **THIS INFORMATION IS REQUIRED FOR ELIGIBILITY.** This worksheet is intended to help you organize your records. If your information is organized in another format, you may use those records as your documentation. However, if your information is incomplete, your application cannot be accepted by the NRCS field office.
2. **Grazing Sequence Schedule Worksheet (Table C)** with example and instructions for producers to complete. **THIS INFORMATION IS REQUIRED FOR ELIGIBILITY.** This worksheet is intended to help you organize your records. If your information is organized in another format, you may use those records as your documentation. However, if your information is incomplete, your application cannot be accepted by the NRCS field office.
3. Producer is to provide **map(s)** of their operation **showing physical improvements that aid in the proper distribution of livestock.** Physical improvements can include (but may not be limited to) fences, watering locations (trough, pond, etc.), salt/mineral/supplement locations, etc. If herding is used to improve livestock distribution, the producer should provide a brief description of that. **THIS INFORMATION IS REQUIRED FOR ELIGIBILITY.** If the map is not provided or is incomplete, the application cannot be accepted by the NRCS field office.
4. **Livestock Access to Water Courses Worksheet** with instructions for producers to complete. **THIS INFORMATION IS REQUIRED FOR ELIGIBILITY.** This worksheet is intended to help you organize your records. If your information is organized in another format, you may use those records as your documentation. However, if your information is incomplete, your application cannot be accepted by the NRCS field office.
5. **Pest Management Input Worksheet** with example and instructions for producers to complete. This worksheet is only required if the producer answered “yes” in the *National Self-Assessment Workbook* to Pastureland Question Number 13 and/or Rangeland Question Number 11. **THIS INFORMATION IS NECESSARY TO DETERMINE WHAT TIER OR CATEGORY APPLIES TO THE PRODUCER.** It is not required to determine eligibility. If the worksheet is incomplete or not provided at time of application, advancement to a higher Tier or Category will not be possible for Pest Management.

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Additional Requirements for Pastureland

(These do NOT apply to rangeland.)

1. **The Nevada Supplement Pastureland Definition is:** “Pasture is irrigated land producing native or introduced forage plants that are primarily managed for the direct consumption by grazing animals. Management of pastureland includes periodic renovation and cultural treatments such as fertilization and weed control with, typically, not more than one (1) annual cutting for hay. Livestock grazing is intensively managed during the forage crop active growth period. Pasture is differentiated from hayland in that forage crops are machine harvested for future consumption by livestock on hayland and livestock grazing (if practiced) is limited to harvest of forage crop aftermath following the active growth period for the crop.”
2. **Nutrient Management Input Worksheet for Pastures** with example and instructions for producers to complete. This worksheet is only required if the producer answered “yes” in the *National Self-Assessment Workbook* to Pastureland Questions Number 5 and/or Number 6 and/or Number 9. This worksheet is necessary to determine if a producer can be placed in a higher Tier or Category. It is not required to determine eligibility. If the worksheet is incomplete (or not provided) at time of application, advancement to a higher Tier or Category will not be possible for Nutrient Management.
3. **Soil Management Worksheet for Pastures** with examples and instructions for producers to complete. This description is only required if the producer answered “yes” in the *National Self-Assessment Workbook* to Pastureland Questions Number 14 and/or Number 18 and/or Number 19. This worksheet is necessary to determine if a producer can be placed in a higher Tier or Category. It is not required to determine eligibility. If the worksheet is not provided at time of application, advancement to a higher Tier or Category will not be possible for Soil Management.
4. **Irrigation Water Management Worksheet for Irrigated Pastures** with example and instructions for producers to complete. This worksheet is only required if the producer answered “yes” in the *National Self-Assessment Workbook* to Pastureland Question Number 24. This worksheet is necessary to determine if a producer can be placed in a higher Tier or Category. **In addition to the irrigation water management worksheet provided by the producer, NRCS will determine the irrigation index value for the irrigated pasture(s).** *The index score must be equal to or greater than 60 for the producer to be advanced to either a higher Tier or Category.* The Irrigation Water Management worksheet and the Irrigation Index score (calculated by NRCS) are not required to determine eligibility. If the worksheet is not provided at time of application, or if the Irrigation Index score does not equal or exceed 60, advancement to a higher Tier or Category will not be possible for Irrigation Management.

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Forage and Animal Balance Worksheet

This worksheet is required if you answered "Yes" in the National Self-Assessment Workbook to Pastureland Questions Number 1 or 3, and/or Rangeland Questions Number 1 and/or 3.

This worksheet will break down your herd inventory needs (demands) and the corresponding forage and roughage inventory available (supply). This will help you determine if your grazing system is balanced for the most sustainable use of your grazing land.

There are two tables in this worksheet. Please refer to the examples for your reference and then fill out your information on the following pages. Use additional sheets if necessary, and remember to submit this with your application.

Table A

Table A provides an overall description of your livestock operation, including the number of animals you have and their corresponding animal unit equivalents (AUE). One animal unit (AU) is equivalent to the forage amount required for one 1,000 pound mature cow and her calf (see AUE values provided on the worksheet). One Animal Unit Month (AUM) is the amount of forage needed to sustain one animal unit, or its equivalent, for one month. This roughly equates to 30 pounds of air-dry feed for one day and 915 pounds of air-dry feed for one month. Research shows that feed intake varies from 1.5 percent to 3.5 percent of animal body weight based on factors such as forage quality and quantity, environmental conditions, physiological stage of the animals, etc. Your total AUMs/year will determine the number of AUMs of forage or roughage needed for your operation.

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Forage and Animal Balance Worksheet (Table A)

EXAMPLE - TABLE A: Present Livestock Inventory and Total AUMs Needed

<i>Livestock Kind and Class</i>	<i>Animal Unit Equivalent (aue)</i>	<i>Number of Animals</i>	<i>Total Animal Units</i>	<i>Number of Months on Grazing Unit</i>	<i>Total AUMs Needed per Year</i>
Cow, dry (1,200 lbs)	1.00				
1,000 lb Cow, with calf	1.00	x 200	= 200 AUs	x 12	= 2,400 AUMs per year
1,200 lb Cow, with calf	1.20				
Bull, mature (1, 700 lbs)	1.35	x 20	= 27 AUs	x 12	= 324 AUMs per year
Cattle, < 12 months (weaned)	0.55				
Cattle, 12-24 months (weaned)	0.75				
Horse, mature	1.25	x 5	= 6.25 AUs	x 12	= 75 AUMs per year
Sheep, mature (150 lbs)	0.20				
Lamb, 12 months old	0.15				
Goat, mature (130 lbs)	0.10				
Kid, 12 months old	0.10				
Elk, mature (500 lbs)	0.60				
Bison, mature Cow (900 lbs)	1.00				
Bison, mature Bull (1,300 lbs)	1.35				
Bighorn Sheep, mature	0.20				
Llama, mature (250-400 lbs)	0.30				
Alpaca, mature (110-180 lbs)	0.20				
Ostrich, mature (200-350 lbs)	0.30				
Emu, mature (up to 150 lbs)	0.20				
Total		425 animals	233.25 AUs		2,799 AUMs per year

200 cows + 200 calves
+ 20 bulls + 5 horses = 425

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Forage and Animal Balance Worksheet (Table A)

TABLE A: Present Livestock Inventory and Total AUMs Needed

<i>Livestock Kind and Class</i>	<i>Animal Unit Equivalent (aue)</i>	<i>Number of Animals</i>	<i>Total Animal Units</i>	<i>Number of Months on Grazing Unit</i>	<i>Total AUMs Needed per Year</i>
Cow, dry (1,200 lbs)	1.00				
1,000 lb Cow, with calf	1.00				
1,200 lb Cow, with calf	1.20				
Bull, mature (1,700 lbs)	1.35				
Cattle, < 12 months (weaned)	0.55				
Cattle, 12-24 months (weaned)	0.75				
Horse, mature	1.25				
Sheep, mature (150 lbs)	0.20				
Lamb, 12 months old	0.15				
Goat, mature (130 lbs)	0.10				
Kid, 12 months old	0.10				
Elk, mature (500 lbs)	0.60				
Bison, mature Cow (900 lbs)	1.00				
Bison, mature Bull (1300 lbs)	1.35				
Bighorn Sheep, mature	0.20				
Llama, mature (250-400 lbs)	0.30				
Alpaca, mature (110-180 lbs)	0.20				
Ostrich, mature (200-350 lbs)	0.30				
Emu, mature (up to 150 lbs)	0.20				
Total					

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Forage and Animal Balance Worksheet (Table B)

Table B

Table B provides the “balancing act” of forage allocation to meet domestic and wildlife needs, and can be used to assist in your grazing management design. Use the information identified in Table A to assist in completing Table B.

EXAMPLE - TABLE B: Grazing and Harvested Roughage Available

Type of Forage or Feed	Field Number/Name	Acres	Yield/Acre per Year	Total AUMs Available
Rangeland	1, 2, 3, 4	10,720	.25 AUM/acre	= 2,680 AUMs per year
Irrigated Pasture	5, 6	1,000	2.5 acres/AUM	= 400 AUMs per year
Dryland Pasture	7, 8	950	3.8 acres/AUM	= 250 AUMs per year
Hayland Grazing				
Crop Aftermath				
Leased Grazing				
Other Forage				
Hay Source Number 1	purchase	---	12 tons	26 AUMs per year
Hay Source Number 2	produced on farm	100	2 tons/acre	437 AUMs per year
Silage				
Other Roughage				
Total		12,770 acres		3,793 AUMs available

Sample Calculations for Table B:

To convert AUM/ac to Total AUMs: Multiply Acres by AUM/ac. $10,720 \times .25 = 2,680$

To convert ac/AUM to Total AUMs: Divide Acres by ac/AUM. $1000 / 2.5 = 400$

To convert tons of hay purchased to Total AUMs: $(\text{Tons} \times 2000) / 915 \text{ lbs per AUM}$
 $(12 \times 2000) / 915 = 26$

NOTE:

If you do not estimate annual production on your grazing lands (by clipping and weighing, or through visual estimates), you can estimate the AUM values “backwards” by using your historical stocking rates. For example, if you typically run 200 cow/calf pairs in Field 1 (2,800 acres) for 3 months, the Yield/Acre per year for that field may be calculated this way:

1. From Table A, 200 cow/calf pairs (1,000 lb cows) = 200 Animal Units (200 x 1.00)
2. 200 AUs on Field 1 for 3 months = 600 AUMs (200 x 3)
3. 600 AUMs / 2,800 acres = 0.21 AUM/ac. The Total AUMs Available for that field are the total Animal Units x length of grazing period in the field (200 AU x 3 months) = 600 AUMs.

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Forage and Animal Balance Worksheet (Table B)

TABLE B: Grazing and Harvested Roughage Available

<i>Type of Forage or Feed</i>	<i>Field Number/Name</i>	<i>Acres</i>	<i>Yield/Acre per Year</i>	<i>Total AUMs Available</i>
Rangeland				
Irrigated Pasture				
Dryland Pasture				
Hayland Grazing				
Crop Aftermath				
Leased Grazing				
Other Forage				
Hay Source Number 1				
Hay Source Number 2				
Silage				
Other Roughage				
<i>Total</i>				

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Grazing Sequence Schedule Worksheet (Table C)

This worksheet is required if you answered "Yes" in the National Self-Assessment Workbook to Pastureland Questions Number 1 or Number 3, and/or Rangeland Questions Number 1 and/or Number 3.

This worksheet contains information on the grazing schedule you have planned (this year), and carried out (2 previous years), and can be used to assist in your grazing management.

- Use the information identified in worksheet Rangeland and Pastureland Tables A and B to help you complete the first four columns of this worksheet.
- In the remaining columns, January through December, mark the corresponding time grazing occurred in each field or pasture.
- If you grazed the same field(s) in the same season for 2 or more years in a row, you will need to explain the circumstances at the bottom of the form.

Please refer to the examples below for reference and then fill out your information on the blank forms provided. Use additional sheets to show the grazing sequence for this year and the two previous years. Remember to submit this with your application.

EXAMPLE - TABLE C: Grazing Sequence Schedule Worksheet

YEAR: 2003

Field	Herd	Number of Animals	AUs	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	pairs	200	200												
2	pairs + bulls	220	227												
3	horses	5	6.25												
4	bulls	20	27	Fed Hay											
5	pairs	200	200												
6	pairs	87	87												
7	bulls	20	27												
8	horses	5	6.25	Fed Hay											
9, 10	pairs	113	113												

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Grazing Sequence Schedule Worksheet (Table C)

TABLE C: Grazing Sequence Schedule

YEAR: _____

[illegible]

If you have pastures that were grazed in the same season for 2 or more years in a row, please explain the circumstances here:

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Livestock Access to Water Courses Worksheet

Managing livestock access to water courses. Check the answer that best describes your livestock management. This form is required for range, pasture, and crop aftermath grazing. If you answer "False" or "N/A" to any of these questions, please provide a brief description explaining why.

WORKSHEET: *Managing Livestock Access to Water Course*

Question	True	False	N/A
1. I do not allow continuous livestock grazing in riparian areas or other water courses.			
2. I regularly herd livestock away from water courses to decrease their time and concentration in those areas.			
3. I provide off-stream drinking water sources for livestock.			
4. I provide supplements or other attractants outside of water courses and away from ponds to keep livestock from concentrating in those areas.			
5. I have fenced some or all of my riparian areas and ponds to deter livestock and prevent them from loitering in those areas.			
6. My corrals, handling facilities and/or feeding areas are not located in or directly adjacent to streams or creeks.			

Descriptions for "False" or "N/A" answers to the above questions:

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Pest Management Input Worksheet

This worksheet is required if you answered "Yes" in the National Self-Assessment Workbook to Pastureland Questions Number 1 and/or Number 3 and Questions Number 10-13, and Rangeland Questions Number 1 and/or Number 3 and Questions Number 8-10.

- Under the Type of Land column, please list if the land treated was rangeland (with native or tame grass species), dryland pasture, or irrigated pasture.
- Under the Field Number column, please list all fields treated.
- Under the Target Pest column, please list all types of pests targeted for control (plant, animal, insect, etc.).
- Under the Suppression Method column, please include the product name or the active ingredient of the method used to manage the target pest listed.
- Under the Pesticide Application Rate column, include the pounds or ounces of the active ingredient (ai). If you forgot the application rate but are certain that you followed the label directions, indicate that.
- Under the Date Applied column, please list the date(s) when the pesticide was applied.
- Under the Application Method column, indicate if pesticide was ground or aerial applied. Please refer to the example below for reference and then fill out your information on the blank form provided. Use additional sheets if necessary, and remember to submit this with your application.

EXAMPLE: Pest Management Input Worksheet

<i>Type of Land</i>	<i>Field Numbers</i>	<i>Target Pest</i>	<i>Suppression Method (Chemical Used)</i>	<i>Pesticide Application Rate</i>	<i>Date Applied</i>	<i>Application Method: Soil Surface or Foliar</i>
Irrigated Pasture	1	annual grasses	Poast	0.28 lb ai/ac	6/10/2003	soil surface
Rangeland	corral + fields 2, 5, 7	broadleaf weeds	2, 4-D	label directions	7/15/2004	spot-spray foliar
Rangeland	3, 6	sagebrush	2, 4-D	label directions	6/1/2004	aerial-foliar

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Pest Management Input Worksheet

WORKSHEET: Pest Management Input

Type of Land	Field Numbers	Target Pest	Suppression Method (Chemical Used)	Pesticide Application Rate	Date Applied	Application Method: Soil Surface or Foliar

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Nutrient Management Input Worksheet for Pastures

This worksheet is required ONLY if you answered "Yes" in the National Self-Assessment Workbook to Pastureland Questions Number 5 and/or Number 6 and/or Number 9.

This worksheet contains information on the nutrient applications on pastureland fields for your operation. The following bullets include additional information to assist in completing this worksheet.

- Under the Forage Grown column, list the species grown in the fields indicated.
- Under the Field Number column, list all fields treated.
- Under the Fertilization Formulation column, list the fertilizer formulation (Nitrogen - Phosphorus - Potassium).
- Under the Application Rate column, include the rate in pounds/acre units.
- Under the Application Method and Date column, include the information requested.
- Under the Application Depth column, include the depth at which the fertilizer was applied.
- In the Soil Test column indicate if your fertilizer application rate is based on soil test results. Please attach a copy of the latest soil test for each field. Please refer to the example below for reference and then fill out your information on the blank form provided. Use additional sheets if necessary, and remember to submit this with your application.
- If you apply animal manure, indicate if your application rate is based on soil test results. Also indicate if manure tests were used to determine application rate.

EXAMPLE: Nutrient Management Input Worksheet for Pastures

<i>Forage Grown</i>	<i>Field Number</i>	<i>Fertilizer Formulation</i>	<i>Application Rate (lbs/ac)</i>	<i>Application Method and Date</i>	<i>Application Depth</i>	<i>Soil Test</i>	<i>Manure Test</i>
Perennial Grass	2	45-0-0	300 lbs/acre	broadcast in Feb. & application in April	surface	yes	N/A
Grass/ legume	5	feedlot manure	4,000 lbs/acre	spread dry manure and harrow	surface	yes	yes

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Nutrient Management Input Worksheet for Pastures

WORKSHEET: Nutrient Management Input Worksheet for Pastures

<i>Forage Grown</i>	<i>Field Number</i>	<i>Fertilizer Formulation</i>	<i>Application Rate (lbs/ac)</i>	<i>Application Method and Date</i>	<i>Application Depth</i>	<i>Soil Test</i>	<i>Manure Test</i>

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Soil Management Worksheet for Pastures

This worksheet is required ONLY if you answered "Yes" in the National Self-Assessment Workbook to Pastureland Questions Number 14 and/or Number 18 and/or Number 19.

This worksheet contains information on how you manage soil compaction and soil salinity levels on the pastureland fields for your operation. These questions apply to both irrigated and non-irrigated pastures.

Managing soil compaction and/or soil salinity. Check the answer that best describes your soil management. If you answer "FALSE" or "N/A" to any of these questions, please provide a brief description explaining why.

Question	True	False	N/A
1. I do not allow livestock grazing in all or selected pastures during or immediately following irrigation events.			
2. I regularly drag grazed pastures to break up and spread manure piles.			
3. I measure or monitor my pasture soil salinity levels.			
4. I apply additional irrigation water to leach salts below the plant root zone.			
5. I apply soil amendments (gypsum, sulfur, etc) to offset any negative effects of soil salinity.			
6. In pastures that have high soil salinity levels, I plant salt-tolerant forage plants.			

Descriptions for "False" or "N/A" answers to the above questions:

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Irrigation Water Management Worksheet for Irrigated Pastures

This worksheet is required ONLY if you answered "Yes" in the National Self-Assessment Workbook to Pastureland Question Number 24.

This worksheet contains information on the irrigation water management of irrigated pastureland fields for your operation. The following bullets include additional information to assist in completing this worksheet.

- Under the Forage Grown column, list the species grown in the fields indicated.
- Under the Field Number column, list all fields treated.
- Under the Measure/Monitor Your Water column, list the methods you use to measure and/or monitor your irrigation water applications for the identified field.
- Under the Irrigation System Description column, include the type of irrigation system.
- Under the Irrigation Dates column, include the dates for the duration of irrigation.
- Leave the NRCS Irrigation Index column blank. **The NRCS will calculate the Irrigation Index value for the pastures you irrigate, based on the information you provide on this worksheet.**

Your completed worksheet, plus the Irrigation Index score, will be used to evaluate the opportunity to move you into a higher Tier or Category.

NOTE: The Irrigation Index score must equal or exceed 60 for advancement to a higher Tier or Category.

EXAMPLE: Irrigation Water Management Worksheet

<i>Forage Grown</i>	<i>Field Numbers</i>	<i>Do you measure or monitor your water? If yes, explain.</i>	<i>Irrigation System Description</i>	<i>Irrigation Dates</i>	<i>Application (in/ac)</i>	<i>NRCS Irrigation Index</i>
Orchardgrass	5 & 6	Tensiometer	100 acre Center Pivot	6/15 - 8/20		
Misc. pasture grasses and legumes	7	Hand feel method for moisture testing	15,000 ft. of dirt ditch, 300 1.25 inch siphon	5/1 - 7/1		

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Irrigation Water Management Worksheet for Irrigated Pastures

WORKSHEET: Irrigation Water Management

[illegible]

* NRCS will calculate.